

Listing of Claims:

Claim 1 (currently amended): A composition comprising (i) an enzyme that cleaves effects cleavage of a linkage that is comprised of a phosphatidylinositol and that membrane-anchors a surface protein or a carbohydrate in a pathogen, whereby said cleavage effects release of ~~a cell-surface~~ said surface protein or carbohydrate, said enzyme being other than an endo-1,4- β -D-mannanase, and (ii) a physiologically acceptable carrier for said enzyme, wherein said composition is in a form suitable for oral administration and wherein said cleavage interferes with host cell-pathogen binding, such that the infective ability of said pathogen to said host cell is reduced.

Claims 2-20 (previously cancelled)

Claims 21-31 (withdrawn by Examiner in Office Action mailed July 24, 2002)

Claim 32 (currently amended): A composition comprising (i) an enzyme that [cleaves] effects cleavage of a linkage that is comprised of a phosphatidylinositol and that membrane-anchors a surface protein or a carbohydrate in a pathogen, whereby said cleavage effects release of ~~a cell-surface~~ said protein or carbohydrate, and (ii) a physiologically acceptable carrier for said enzyme, wherein said composition is in a form suitable for oral administration and does not contain an anti-infection agent other than said enzyme, and wherein said cleavage interferes with host cell-pathogen binding, such that the infective ability of said pathogen to said host cell is reduced.

Claims 33 (withdrawn by Examiner in Office Action mailed July 24, 2002)

Claim 34 (previously added): The composition according to claim 1, wherein said composition is a feed.

Claim 35 (currently amended): The composition according to ~~claims~~ claim 1, wherein said composition contains no anti-infection agent other than said enzyme.

Claim 36 (previously added): The composition according to claim 1, wherein said enzyme cleaves a linkage that effects release of a cell-surface protein.

Claim 37 (previously added): The composition according to claim 1, wherein said enzyme is selected from the group consisting of esterases, cerebrosidases, and carbohydrases that cleave a linkage that effects release of a cell-surface protein or carbohydrate.

Claim 38 (previously added): The composition according to claim 37, wherein said esterases are selected from the group consisting of sphingomyelinases and phospholipases.

Claim 39 (previously added): The composition according to claim 38, wherein said phospholipase is a type C or type D phospholipase.

Claim 40 (previously added): The composition according to claim 38, wherein said phospholipase is a phosphatidylinositol-specific phospholipase C.

Claim 41 (previously added): The composition according to claim 1, wherein said composition further comprises a stabilizer, a carbohydrate carrier or a preservative.

Claim 42 (previously added): The composition according to claim 41, wherein said stabilizer is a buffer, a carbohydrate or a glycol.

Claim 43 (previously added): The composition according to claim 41, wherein said carbohydrate carrier is selected from the group consisting of xylose, fructose, glucose, sorbitol, and maltotriose.

Claim 44 (previously added): The composition according to claim 41, wherein said preservative is selected from the group consisting of propylparaben, sodium sorbate, potassium sorbate, and ascorbyl palmitate.

Claim 45 (previously added): The composition according to claim 1, wherein said carrier is a foodstuff into which said enzyme is incorporated.

Claim 46 (currently amended): The composition according to ~~anyone of~~ claim 45, wherein said foodstuff is an animal feed comprised of grain material, a source of protein, vitamins, amino acids, and minerals.

Claim 47 (previously added): The composition according to claim 46, wherein said grain material is corn, sorghum, wheat, barley or oats.

Claim 48 (previously added): The composition according to claim 46, wherein said source of protein is beans or peas.

Claim 49 (previously added): The composition according to claim 1, wherein said composition is in a solid or a liquid formulation.

Claim 50 (previously added): The composition according to claim 1, wherein said enzyme is contained in a tablet or a gelatin capsule shell.

Claim 51 (previously added): The composition according to claim 1, wherein said enzyme is prepared from a *Bacillus cereus* strain.

Claim 52 (previously added): The composition according to claim 51, wherein said *Bacillus cereus* strain is ATCC 7004 or ATCC 6464.

Claim 53 (previously added): The composition according to claim 1, wherein said enzyme is obtained by expression of a recombinant DNA in a host organism.

Claim 54 (previously added): The composition according to claim 53, wherein said host organism is from a *Bacillus megaterium* strain.

Claim 55 (previously added): The composition according to claim 1, wherein said enzyme is present at 200 IU/Kg – 4000 IU/Kg feed.

Claim 56 (previously added): The composition according to claim 32, wherein said carrier is a foodstuff into which said enzyme is incorporated.

Claim 57 (previously added): The composition according to claim 56, wherein said foodstuff is an animal feed comprised of grain material, a source of protein, vitamins, amino acids, and minerals.

Claim 58 (previously added): The composition according to claim 57, wherein said grain material is corn, sorghum, wheat, barley or oats.

Claim 59 (previously added): The composition according to claim 57, wherein said source of protein is beans or peas.

Claim 60 (previously added): The composition according to claim 32, wherein said composition is in a solid or a liquid formulation.

Claim 61 (previously added): The composition according to claim 32, wherein said enzyme is contained in a tablet or gelatin capsule shell.

Claim 62 (previously added): The composition according to claim 32, wherein said enzyme is a hemicellulase.

Claim 63 (previously added): The composition according to claim 62, wherein said hemicellulase is a mannanase.

Claim 64 (previously added): The composition according to claim 63, wherein said mannanase is the endo-1,4- β -D-mannanase produced by *Bacillus lentus* designated as ATCC 55045.

Claim 65 (previously added): The composition according to claim 32, wherein said enzyme is selected from the group consisting of esterases, cerebrosidases, and carbohydrases that cleave a linkage that effects release of a cell-surface protein or carbohydrate.

Claim 66 (previously added): The composition according to claim 65, wherein said esterases are selected from the group consisting of sphingomyelinases and phospholipases.

Claim 67 (previously added): The composition according to claim 66, wherein said phospholipase is a type C or a type D phospholipase.

Claim 68 (previously added): The composition according to claim 66, wherein said phospholipase is a phosphatidylinositol-specific phospholipase C.

Claim 69 (previously added): The composition according to claim 32, wherein said composition further comprises a stabilizer, a carbohydrate carrier or a preservative.

Claim 70 (previously added): The composition according to claim 69, wherein said stabilizer is a buffer, a carbohydrate or a glycol.

Claim 71 (previously added): The composition according to claim 69, wherein said carbohydrate carrier is selected from the group consisting of xylose, fructose, glucose, sorbitol, and maltotriose.

Claim 72 (previously added): The composition according to claim 69, wherein said preservative is selected from the group consisting of propylparaben, sodium sorbate, potassium sorbate, and ascorbyl palmitate.

Claim 73 (new): The composition according to claim 38, wherein said phospholipase is 1-phosphatidylinositol phosphodiesterase.

Claim 74 (new): The composition according to claim 38, wherein said phospholipase belongs to enzyme class, E.C. 3.1.4.10.

Claim 75 (new): The composition according to claim 38, wherein said phospholipase is glycosyl-phosphatidylinositol-specific phospholipase D.

Claim 76 (new): The composition according to claim 66, wherein said phospholipase is 1-phosphatidylinositol phosphodiesterase.

Claim 77 (new): The composition according to claim 66, wherein said phospholipase belongs to enzyme class, E.C. 3.1.4.10.

Claim 78 (new): The composition according to claim 66, wherein said phospholipase is glycosyl-phosphatidylinositol-specific phospholipase D.